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THE RELATIONSHIP BETWEEN ENTREPRENEURIAL COMPETENCIES, INNOVATION AND SMEs PERFORMANCE IN NORTHERN MALAYSIA

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Abstract

Small and Medium Enterprises (SMEs) received great attention on its contributions in the policies of economic and social development either in the countries that have developed or in developing countries. The purpose of this study is to examine the relationship between entrepreneurial competency, innovation and SMEs performance in Northern Malaysia. A random sampling technique was used on 97 usable questionnaires and data was analyzed by SPSS 19. Statistically, the results confirmed that entrepreneurial competency has significant positive relationship with firm performance; whereas, innovation does not have any significant relationship with firm performance. However, there is a significant combined effect of entrepreneurial competency and innovation on firm performance. Finally, this study will provide important information on the management and innovation practices of entrepreneurship among SMEs in Malaysia.

Keywords: small and medium enterprises, entrepreneurial competency, innovation, performance.

INTRODUCTION (Capital Letter, Arial, Font size 10)

SMEs are important in most countries' national employment, domestic services and products, and overall economic performance (Gilmore, Galbraith, & Mulvenna, 2013; Zhu, Wittmann & Peng, 2012; Berthon, Ewing & Napoli, 2008).

In the policies of economic and social development, Small and Medium Enterprises (SMEs) received great attention either in the countries that have developed or in developing countries. Many researchers have acknowledged the important role played by the SMEs (Love & Roper, 2015; Brambilla, Lederman, & Porto, 2012; Smallbone, 2004). Tether (2000) reported small firms based on high technology (SHTFs) created aims to generate innovation.

Based on Malaysia Productivity Corporation Report (2013), the World Economic Forum (WEF) has upgraded Malaysia from the Efficiency-Driven Stage into the transition stage towards Innovation-Driven Development. These economies would have gone on to generate high rates of innovation because they have the presence of highly skilled human resource, in addition to having flexible organisations, strong research institutions and the availability of venture capital. These are characteristics that can rapidly respond to the vagaries of a continually changing global environment.

Focus will be on creating a new breed of innovative and globally competitive SMEs that are resilient to challenges arising from liberalization and changing global environment. The Government will also endeavor on catalyzing growth of potential SMEs to become homegrown champions that can compete in the regional and global markets. In the last few years, SMEs have witnessed a marked improvement in their performance. Real Gross Domestic Product (GDP) of SMEs has consistently

outperformed that of the overall economy, expanding at an average annual growth rate of 6.8% versus 4.9% for the overall economic growth in the period 2004 – 2010. (SME Masterplan, 2012-2020).

Problem Statement

Small and medium-sized enterprises (SMEs) play an important role in national economy and contribute significantly to income, output, employment and GDP. (SME Corp Annual Report, 2015/2016). SME development has been earmarked as the new engine of country development for Malaysia.

Despite the significant contribution to the national development, SMEs in Malaysia only contribute 31% to GDP as compared to our neighbouring countries like Singapore which contributes 49% and Thailand 38% contribution to GDP, and this is far lower compared to SME's in developed economies country such as Germany and Japan which contributes 53% (SME Annual Report, 2012). Furthermore, the issues of the weak performance of SMEs in Malaysia have long argued and it is still continues until now.

Many academicians and policy makers have raised a variety of national opinion and projections to overcome in order to ensure that its contribution would become a reality in the context of economic and social development of this country. This issue was exposed through electronic media, newspapers, periodical reports by the ministries and government departments, agencies and through research, research by academics (SMECorp, 2013, 2015; SME Masterplan 2012-2020; Census of Establishments and Enterprises and Bank, 2011; Rasiah, 2002).

Nevertheless, based on SME Masterplan 2012-2020, SMEs in Malaysia still underperformed as compared to its peers in the region and against more developed nations which revealed four key characteristics, namely:

- Productivity of SMEs was relatively low;
- Business formation was lower than in high income nations;
- Small number of firms accounted for bulk of the increase in GDP and employment; and
- Material share of informal sector existed in the economy.

There are some researchers who have highlighted their study on the influence of entrepreneurial competencies which factors related to personal qualities and the performance of SMEs (Mitchelmore & Rowley, 2013; Man, 2001; Man, Lau & Chan, 2002; Priyanto, 2005; Nathaka, 2007 and Man, Lau & Snape, 2008, Azizi, 2010).

In addition, there is still a scope that requires theoretical and empirical studies although the concept has been widely used in practice and there have been some discussions about entrepreneurial competencies have been investigated by researchers (Brinckmann, 2008).

The factor of innovation contributes to the increase in market share, production efficiency, productivity growth and revenue of the organizations. There are many organizations find that innovation is the key to increasing profits and market share (Shefer & Frenkel, 2005). Innovation enables firms to offer various products that can advance their financial performance, as mentioned by Zahra, Ireland and Hitt (2000). On the other hands, Census of Establishments and Enterprises (2011) showed that only 0.5 per cent of the overall organization stated that they invested in innovation and research and development (R&D) in 2010.

This figure accounts for only by 1.3 per cent of total value added and weak in marketing aspects. Census shows that there is less than 10 percent of SMEs who undertake some form of marketing and promotional activities (BNM Business Report, 2013).

Hence, the scope of this study is to examine the relationship of the entrepreneurial competencies and innovation that affect the performance of SMEs in the northern Peninsular of Malaysia. Respondents will apply to all types of race and gender.

Small and Medium Enterprise (SME) - The definitions of SMEs have been changed from time to time based on the importance of SMEs distribution to Malaysian economic conditions. Definition of SMEs in Malaysia is based on the number of full-time employees and annual sales turnover. The criterion used is almost similar to the other countries like the United Kingdom, USA, Japan, China and Korea. The current study has adopted the definition of SMEs that have been formulated by the National SME Development Council (2013) based on two criteria: i) full-time employees and ii) annual sales (SME Master Plan, 2012-2020).

In short an organization classified as an SME if it meets one of the criteria according to the tables given. Tables 1.1 and 1.2 summarize the SME definition for each specific sector. It encompasses all economy sectors in Malaysia. Detailed definition by category namely Micro, Small and Medium is as follows:

Table 1.1: Annual Sales Turnover

Size	Manufacturing	Agriculture	Services
Micro	Less than RM250,000	Less than RM200,000	Less than RM200,000
Small	From RM250,000 to less than RM10 million	From RM200,000 to less than RM1 million	From RM200,000 to less than RM1 million
Medium	From RM10 million to less than RM25 million	From RM1 million to less than RM5 million	From RM1 million to less than RM5 million

Table 1.2: Number of Full-time Employees

Size	Manufacturing	Agriculture	Services
Micro	Less than 5 employees	Less than 5 employees	Less than 5 employees
Small	From 5 to less than 50 employees	From 5 to less than 20 employees	From 5 to less than 20 employees
Medium	From 50 to less than 150 employees	From 20 to less than 50 employees	From 20 to less than 50 employees

Source: SME Master Plan, 2012-2020.

LITERATURE REVIEW

SMEs Performance

The taxonomy of performance for SMEs has been depicted by different schools of thought through scholarly studies, consultations, and business practices. The distinction between the paradigmatic definitions of performance is distinguished by the stages of development in researching and planning the small business management. It is the interplay of experience and conceptualization along this learning threshold that drives the evolution of the term 'performance' as a measurement, management, or assessment (Folan, Browne, and Jagdev, 2007). According to Hazlina et. al (2010), studies of business success or performance in SMEs can generally be categorised into two broad groups. The first highlights the role of external factors in determining success, whereas the second emphasizes the internal aspects of SMEs, specifically, the organizational variables and the characteristics of the entrepreneur.

Entrepreneurial Competencies

The concept of competency is not something new in the field of management. Mintzberg (1973) has identified ten key roles of managers and management scholars have conducted research competencies related to roles that can lead to superior performance in the organization. Several studies have indicated the importance of understanding the role of work in exploring the efficiency associated with the role of each individual (Spencer & Spencer, 1993).

In this point of view, it is believed that by understanding the role of entrepreneurs, better insight into the competencies required for the survival and success in the SME business can be generated. Researchers have reached a consensus on the fact that the SME entrepreneurs operating in complex and challenging assume tasks that require them to engage in a number of different role.

An in-depth analysis of entrepreneurial competencies saw competencies of entrepreneurs as having dual origins: first, components that are more deeply rooted in the entrepreneurs background (i.e. traits, personality, attitudes, self-image, and social roles) and second, components that could be acquired at work or through theoretical or practical learning (i.e. skills, knowledge, and experience) (Man & Lau, 2005).

Innovation

There are variety of definitions on innovation that has been used by the scholars, focusing on different innovation types such as technological innovations, or non-technological innovations such as institutional and organizational (Dosi, 1988; Lundvall, 1992; Edquist, 2005). The focus on such a broad definition of innovation is suitable from an entrepreneurial perspective as it allows to capture innovativeness of the majority of entrepreneurial activities that engage mainly in incremental innovations and not only the very limited number of big organizations that engage in radical high-tech innovations (Smallbone et al., 2003).

Furthermore, it is believed that “the ability of an organization to grow is dependent on its ability to generate new creative ideas and to exploit them effectively for their long term benefit of the organization” (Flynn et al., 2003) and that innovation is underpinned by creativity and underpins enterprise (Thompson, 1967).

Previous studies on innovation and organizational relationship indicated mixed results, some positive, some negative and some showed no relationship at all (Capon et al. 1990). Damanpour (1991) argued that the association between innovation and firm performance depends on the performance measurement and the characteristics of a given organization. Furthermore, different types or different combinations of innovation may also result in divergent organizational performance (Lee et al., 2010). Innovation management studies in particular, often focused on hi-tech small firms (Storey, 1992) and examined in terms of process innovation (Barnett & Storey, 2000) and new product development (Mosey et al., 2002; Mosey, 2005).

The relationship between innovation and organizational performance has been found in many researches (Hurley & Hult, 1998; Kohli & Jaworski, 1993; Keskin, 2006; Damanpour; 1991). Innovation has demonstrated a strong and influential relationship with SMEs performance (Wolff & Pett, 2006). Brown (1998) noted three research streams in SME innovation research: the economic-oriented, organisation-oriented and the project-oriented streams. Studies from the economics-oriented stream showed that small businesses are an important driving force for innovation and that they can be as innovative as larger enterprises.

Although there are a number of studies on continuous improvement in SMEs (Gunasekaran et al., 2000; Birchall et al., 1996), there is a relative paucity of in-depth studies of innovation implementation in SMEs (McAdam, 2000). It cannot be assumed that innovation implementation principles in large organisations are directly transferable to SMEs, where the SME is treated as a scaler version of the large organisation (Teece, 1996). Thus, there is a need for studies on how innovation is implemented within the constraints and characteristics of SMEs.

Consequently, this study aims to examine the effect of innovation, its occurrence, end results, and impacts on business performance by developing a comprehensive conceptual model.

A resource-based view of the firm's capacity to innovate

Traditionally, one of the most important research questions of the management literature has been the relationship between organizational (or firm-level) innovation, firm structural characteristics (e.g., formalization, centralization, specialization) and industrial environment. From this traditional perspective, it is supposed that differences in the firm's innovative activities are basically explained by industry and organizational structure characteristics (Kimberly & Evanisko, 1981; Damanpour, 1991; Wolfe, 1994; Duncan, 1976). By contrast, more behaviorally oriented research streams, and especially evolutionary economics (Nelson & Winter, 1982), have studied innovation activities and performance not only in terms of organizational structure or industry characteristics but also in terms of resources and capabilities (Dosi, 1988).

Within the same line of reasoning, a growing body of literature that embraces the resource-based view of the firm (Brown & Eisenhardt, 1995; Leonard-Barton, 1995) offers new insights to innovation management. According to this influential perspective, the presence of different organizational resources and capabilities positively affects the outcome of the innovation process and, thus, can be used to extend the findings -gained by past research- on the firm's capacity to innovate.

THEORETICAL FRAMEWORK

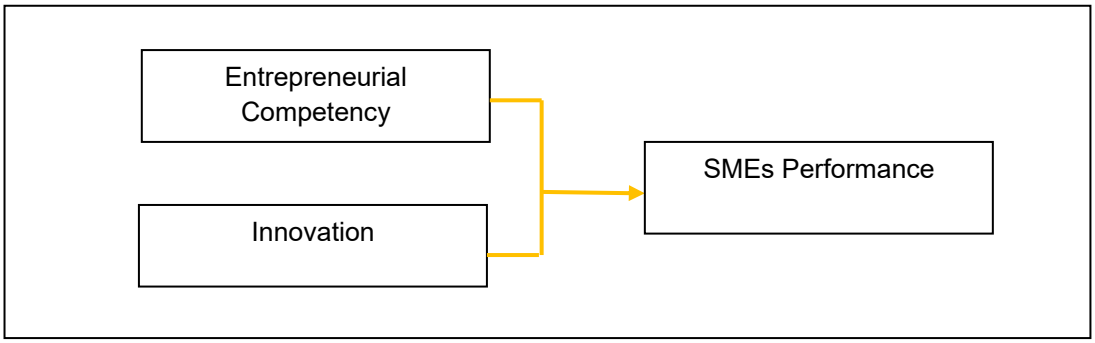

Figure 1: Proposed Research Model (Theoretical Framework)

A theoretical framework is defined as a collection of theories and models which underpins a positivistic research (Hussey & Hussey, 1997). In other words, it is a conceptual model of how researchers theorized or made logical sense of the relationship among the several factors identified as important to the problem. Developing such a conceptual framework helps to postulate or hypothesize and test certain relationships and thus, to improve the understanding of the dynamics of the situation. In total, the theoretical framework discusses the interrelationship among the variables that are considered important to the study. It is essential to understand what a variable means and what the different types of variables are.

After the theoretical framework has been formulated, then testable hypotheses are developed to examine whether the theory formulated is valid or not (Sekaran, 2003). After careful consideration based on the literature and problem statements, the following research framework as shown in Figure 1 is proposed.

RESEARCH METHODOLOGY

Sampling Design

The sample size of 300 was more than the size specified in the table Krejcie and Morgan (Sekaran, 2000). The table produced by Krejcie and Morgan and was said to be made public in accordance with the scientific guidelines (Sekaran, 2000). The larger size is needed to overcome the possibility of respondents could not answer or answered with a nonchalant and even caught up with the questions that are negative and positive. A disproportionate stratified simple random sampling (Sekaran, 2000) has been used by researchers in the selection of samples from the study population obtained.

Research Procedure

A questionnaire was prepared to collect survey data from SME owners who have been picked randomly based on the disproportionate simple stratified random sampling method. The survey questionnaire was managed on the "drop and collect" basis (Mc Carthy, O'Really & Cromin, 2001) throughout SMEs manufacturing sector in northern states of Malaysia. Respondents involved owners or managers of SMEs for all gender and races. Before answering the question, the researcher gave a brief explanation on the research objectives. Each respondent was advised that the answering process will take no longer than 60 to 90 minutes to complete and the questionnaire will be collected within one hour to two weeks later based on negotiation with the respective respondent. It needed to be answered by the selected respondent with a pen or pencil. Mode of data collection considered as personally administered questionnaires which is answered by the respective respondent and to be collected back by researcher after two hours to two months based on negotiation with the respective respondent.

DATA ANALYSIS

Hypothesis Testing

In order to test the hypotheses, Correlation analysis and Multiple Regression analysis has been employed in this study.

Correlation Analysis

Pearson Correlation analysis was conducted in order to test the main hypotheses H1 and H2. Correlation analysis signifies the strength of association between predictor and criterion variables. According to Hair *et al*. (2010) if the value of correlation coefficient r is 0 it indicates no relationship; whereas, if a value of r is ±1, it points to an absolute positive or absolute negative relationship between predictor and criterion variables. According to Cohen (1988) if r = ±0.1 to ±0.29 the strength of the relationship is lesser, strength is moderate if r = ±0.30 to ±0.49; whereas, if the value of r = ±0.50 and above, it is indicative of greater degree of strength between the predictor and criterion variables.

Table 4.1 presents the correlations between independent and dependent variables in order to test H1 and H2. Results suggest that entrepreneurial competency has a significant positive relationship with firm performance; whereas, innovation does not have any significant relationship with firm performance as can be seen in table 4.1 as follows. Hence H1 is supported, whereas H2 is not supported.

Table 4.1: Pearson correlations between independent and dependent variables

	Entrepreneurial Competency	**Innovation**	**Firm Performance**
Entrepreneurial Competency	1.000	0.315**	0.252*
Innovation	0.315**	1.000	0.100
SMEs Performance	0.252*	0.100	1.000

**p<0.01, *p<0.05

Multiple Regression Analysis

Multiple regression analysis was conducted to find out the predictive power of the independent variables (Entrepreneurial Competency and Innovation) towards the dependent variable (Firm Performance). Before conducting multiple regression analysis all the assumptions of performing multiple regression analysis such as normality, linearity, homoscedasticity, autocorrelation and multicollinearity were satisfied.

Multiple regression analysis was conducted in order to test the hypothesis H3. Multiple regression analysis elaborates the predictive power of independent variables (Entrepreneurial Competency and Innovation) towards the dependent variable (SMEs Performance). The coefficient of determination R^2 value elaborates the goodness of model fit. As per recommendations put forwards by Cohen (1988), R^2 value of 0.02 refers to poor model fit or weak contribution of the model, R^2 value of 0.13 is regarded as a medium or moderate level of model fit, and R^2 value of 0.26 and above refers to sizeable and significant contribution of the model or in other words it indicates higher level of model fit.

Table 4.2 presents the significance of relationship between independent and dependent variables in order to test H3. Results suggest that there is a significant positive combined effect of Entrepreneurial Competency and Innovation on Firm Performance. Thus H3 is supported. Though, the coefficient of determination R^2 value of 0.064 indicated weaker model fit. Significant F value of 0.045 elaborates that the model is significant at $p<0.05$. Durbin-Watson's value of 2.091 highlights that there is no occurrence of autocorrelation as the value lies in the acceptable range of 1.5 to 2.5 as suggested by Durbin and Watson (1951). Table 4.6 is presented as follows.

Table 4.2: Impact of Entrepreneurial Competency and Innovation on SMEs Performance

Variables	**Standardized Coefficients Beta**	**T Value**	**P Value**
Entrepreneurial Competency	0.243	2.328	0.022**
Innovation	0.023	0.216	0.830
R Square			0.064
Adjusted R Square			0.044
F Value			3.210
F Value Sig			0.045
Durbin-Watson			2.091

***:p<0.01;**:p<0.05;*:p<0.10

CONCLUSION AND DISCUSSION

The study has three main objectives. The first objective is to determine the positive relationship between entrepreneurial competency and the performance of SMEs.

The second objective is to determine the positive relationship between innovation and the performance of SMEs. While the third objective is to determine the positive relationship between entrepreneurial competency, innovation and the performance of SMEs. Three hypotheses were developed.

Empirical research has been conducted using quantitative research methods. The questionnaire used in this study had previously been developed and used by some researchers previously. However, this questionnaire was modified to suit the conditions in place. The modified questionnaire was distributed to be filled in by the manager or owner of the SMEs firm, those holding the Managing Director, Executive Director, or a business partner.

Statistical analysis was conducted after all these questionnaires were collected. A total of 100 questionnaires were successfully collected. Results have given an understanding about the relationship of the entrepreneurial competencies and innovation that affect the performance of SMEs in the northern Peninsular of Malaysia.

Results from the testing of hypotheses that have been developed can be seen as in Table 5.1

Table 5.1: *Summary of Hypotheses*

Hypotheses	**Description**	**Result**
H1	*The stated hypothesis was (H1): Entrepreneurial competencies have a significant relationship with the performance of SMEs.*	Accepted
H2	*The stated hypothesis was (H2): Innovation has a significant relationship with the performance of SMEs.*	Rejected
H3	*The stated hypothesis was (H3): Entrepreneurial competencies and innovation have a significant relationship with the performance of SMEs.*	Accepted

Research Implication

The findings from this study are related to the topic of entrepreneurial competencies, innovation and performance of SMEs Hypothesis testing has given an insight into the impact of entrepreneurial competencies and innovation on the performance of SMEs in the northern Peninsular of Malaysia.

The results of this study are hoping to provide benefits and improvements of at least two areas, namely in the field of academic and also in management or practical implications. The study's findings have found that the management aspects of innovation particularly, attention should be paid by the parties responsible for the delivery and further developing entrepreneurial activities. While in the academic field, at least in this study can contribute to the important dimensions of entrepreneurial competencies and innovation to the performance of SMEs.

Directions for Future Research

To overcome the limitations in this study, the researchers have opened up some space to the question that needs to be investigated in the future. The current study is in the form of cross-section due to time and financial obstacles. Future research can be considered in form of longitudinal studies to examine the impact of innovation toward performance of SMEs.

Current research using quantitative methods in design and analysis. Thus, the information collected is limited to responses from the questionnaire only. The use of qualitative techniques together with quantitative techniques (mixed-method) are necessary because this approach will give better insights about the existing problems. The results of the study may be more valuable if both techniques are used.

Summary

This study seeks to understand the extent to which the impact of entrepreneurial competencies and innovation on the performance of SMEs in the northern Peninsular of Malaysia. The study found that based on the correlations analysis between independent and dependent variables, the results suggested

that entrepreneurial competency had significant positive relationship with firm performance, which is similar to results from past researchers such as Kirzner (1979). Hellreigal & Jackson (2000) Zou & Gao (2007) Man et al., (2008) and Azizi (2010). While, the finding that innovation did not have any significant relationship with SMEs performance similar to researches by Birley and Westhead (1990) and Heunks (1998). This characteristics of Malaysian SMEs and costly to be invested in innovation may explain the non-significance of the innovation variable in our results. An extension of this study could be to collect SMEs samples to capture industry differences.

Other limitations pertain to the lack of objective financial performance data. However, the use of perceptual measures is a common issue in organizational research, and as reflected in other studies, objective and subjective measures are highly correlated, even though
they are separate constructs (Murphy & Callaway, 2004).

Multiple regression analysis was conducted to find out the predictive power of the independent variables (Entrepreneurial Competency and Innovation) towards the dependent variable (SMEs Performance). The results suggested that there is a significant positive combined effect of Entrepreneurial Competency and Innovation on SMEs Performance.

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